WEB GATE Inc.
Connectivity Leader

eDVR DS412

16-Channel Stand-Alone Network DVR of 4 Analog Video and 12 IP Video

Text

Analog Video

Network Video

Digital Data Recording Server Solution

DS412 has 4 analog video channels and 12 channels of IP video (via WebEye Series). In addition to video, DS412 digitizes and records text data along with the corresponding video images from analog or network channels.

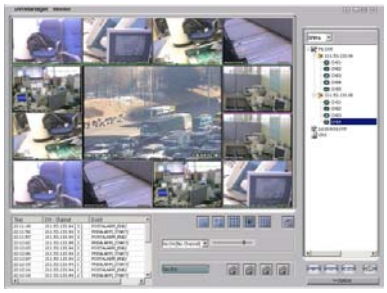
Using a "Proprietary Wavelet Algorithm," the DS412 is the most powerful recording server solution on the market today.

Due to our proprietary Wavelet Algorithm, the DS412 processes analog video into crisp, clear, and court-admissible pictures that are up to 500% smaller than comparable JPEG images. Our Wavelet technology also allows users to record and playback audio for one channel.

DS412 is also equipped with several connection ports for external devices such as IEEE 1394 (3 ports), USB (3 ports), and a RS-232 (hardware-flow-control) port, for integration with POS or ATM systems. In addition, video and text data can be recorded to the two internal hard-drives, or to external drives via FireWire/IEEE 1394 ports.

Analog CCTV cameras can be connected directly through the four BNC ports, and 12 additional channels can be connected remotely through WebEye products over the Ethernet. Live and recorded images can be displayed on a CCTV monitor as well as a PC monitor. DS412 has an integrated quad-splitter and 2 BNC video-out ports that can be connected to an analog CCTV monitor and analog VCR.

[DVR Control Programs]



< For PC User, DVrManager>

< For CCTV Monitor User>

Key Features

- 16-channel (4analog video and 12 IP video channels) support
- 1 channel audio recording & playback
- Recording, Playback, Back-up images and Networking at the same time (Quadplex)
- Total 120 fps recording speed (60fps for analog and 60fps for digital)
- Total 120 fps display speed (Max 60fps over Network)
- Displaying live and recorded images on PC as well as CCTV Monitor
- Built-in hardware Quad Splitter for analog video
- Built-in software multiplexer for all 16 live monitoring channels (1 / 4 / 9 / 13 / 16Ch Mode on CCTV Monitor as well as PC)
- Maximum 1TB storage capacity (IEEE 1394 for external HDD)
- Various configuration with recording and playback conditions
- Intelligent file system for managing event triggered video data
- ATM/POS transaction information text recording and search with corresponding video (Text search function is supported through DVR Manager program)
- 4 pairs of sensor inputs and alarm outputs
- Built-in hardware motion detection with search function
- Various efficient back-up methods (IEEE 1394(FiWi), USB (V 1.1), Ethernet)
- PTZ Control (Preset support) via RS 232 and RS 485/RS422
- User-friendly 32bit True-colored Graphic OSD Menu
- Dynamic IP (DHCP, Floating IP) support (when xDSL and Cable Modem are used)
- Wavelet compression: 3-5KB (Average file size with standard image quality)
- Embedded Linux OS for excellent stability and reliability
- IR remote controller (User controls PTZ with remote controller)
- DVrManager (User Interface of PC) is to be listed with 16 units of eDVR on a program (256chnnels(16 eDVR x 16channel) are controllable through a program)

Specifications

"Recording Server Solution"

Specifications

Hardware
32bit RISC Embedded processor (200MIPS)
Flash memory: 8Mbyte
RAM: 32Mbyte
OS: Embedded Linux

Storage Device
Int.: 2 HDD bays
Ext: 3 IEEE 1394 (FiWi) connection ports
Supports Disk Management Tool for all disks (Reboot is required when HDD changed)
Total manageable capacity: 2 TB

Image Resolution Control
720X486, 720X243, 360X243

Image Compression
Compression Algorithm: Differential Wavelet
Compression Rate: 20:1 ~500:1
Average file size: 3 ~ 5KB (Standard Quality)

Video Channel
NTSC or PAL video format are supported
4Ch. analog video inputs via BNC connector
12Ch. IP video inputs via Network port

Recording Performance (on 360X243)
Analog Ch:
Max. 60fps(NTSC) / 50fps(PAL) in total
Max. 30 fps (NTSC) per channel if 2ch used
Max. 15fps (NTSC) per channel if 4ch used
IP video Ch:
Max. 60fps in total
Max. 5fps(NTSC) per channel

Schedule Recording
Daily: Day / night / Four-segment daily timetable
Weekly: Weekdays / Weekends
Status: Normal / Event

Matrix Digital Output Schedule
Daily: Day / night / Four-segment daily timetable
Weekly: Weekdays / Weekends
Conditions: MD, sensor input, IP video events

Configurable Recording Conditions
Recording speed: None to 30 fps (11 Levels)
Image quality: 5 Levels
Event conditions: MD & sensor inputs, IP video events

Pre / Post Alarm Recording
Pre Alarm Recording: 1 ~ 10 seconds
Post Alarm Recording: 1 ~ 30 seconds

Intelligent file system
Data-loss protection against power failure

Event Triggered Video Data Preservation
Event triggered data overwrite prevention

Text Data Recording
POS / ATM transaction information archived along with corresponding video data
Text information allows direct access to corresponding video data (Only possible through DVR Manager program on PC)
RS-232, 230Kbps, Hardware flow control

Event Log Recording
Log archiving on HDD
Log search & monitoring via Network

Data (Video & Audio Clip) Back-up
External HDD: IEEE1394 (FiWi) or USB port
PnP Memory Stick: USB port
VHS Video Tape: Video output port for VCR
Backup Notification: Daily / Weekly / Monthly

Data (A Still Image) Copy
PnP USB storage (Compact Flash, Smart Media, Memory Stick, SD Card)

Displaying Performance (on 360X243)
Frame Rate on CCTV Monitor:
Analog Video: Max. 120fps(NTSC) /100(PAL)
IP Video: Max. 60fps
Frame Rate on PC
Analog & IP Video: Total Max. 60fps
Display Channel:
Live Monitoring: 1, 4, 9, 13 and 16Ch mode
Playback: 1 and 4Ch mode
Misc.
Play speed: 1x, 2x, 4x, 8x, 16x (FDW & REV)
Supports Step-Forward, Step-Reverse.
Instant data access based on time and event log

Digital Zoom
2 times digital zoom (Live & Playback Mode)

Event Triggered Pop-up Video
Triggered by motion detection or sensor input

PTZ Control
Ports: RS232, RS485/RS422
Local User: Front panel push button & IR Remote (controls IP video channels as well)
Remote User: On-the-screen PTZ control on PC
Preset: 8 points per channel
Group: 1 group per channel
'Return Home Position' support

Sensor Inputs and Alarm Outputs
Software-controlled 4 sensor inputs
Software-controlled 4 alarms outputs

Audio Recording and Playback
Input: 1Ch, line-in, 1Vpp
Output: 1Ch, line-out, 1Vpp
Level: -7 ~ 8 Recording level control
Support 20dB Amp. for low level audio recording
Supports local and remote audio monitoring

Network
Protocol: TCP/IP, ARP, ICMP, DHCP, PPPoE, and PPP
Line: 10/100Mbps Ethernet (RJ-45)

Simultaneous User Support over Network
Monitoring: Max. 5 users
Playback: Max. 5 users

Management and Firmware Upgrades
Remote system configuration via Network
Firmware upgrades via Network

Security
Password (User or Administrator Authentication)
IP filtering
Watermarking (For image copying)

System Requirements to run DVR Manager (Remote viewer program)
PC Processor: Pentium III 500 and above (Pentium IV 1.6Ghz recommended)
Ram: 128 MB and above (256 recommended)
OS: Windows 2000 / XP Pro

Power Supply (included)
Input: AC 100~240V, 50~60 Hz
Output: DC 12V, 5A

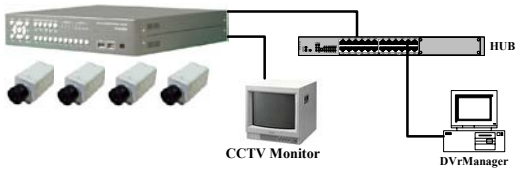
Power Consumption
Booting: Max. DC 12V ± 10%, 3.4A (40W)
Normal: DC 12V ± 10%, 2.0A (24W)

Environmental Spec
Operating: 41 ~ 113 degrees F.
Storage: -49 ~ 149 degrees F.

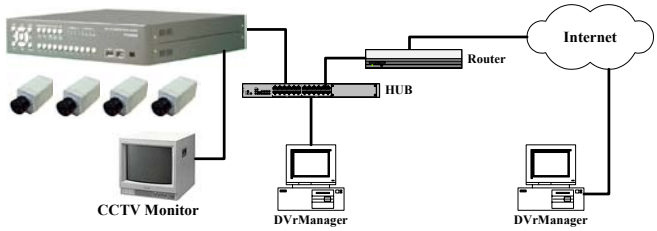
Network Configuration

1. Off-line Configuration

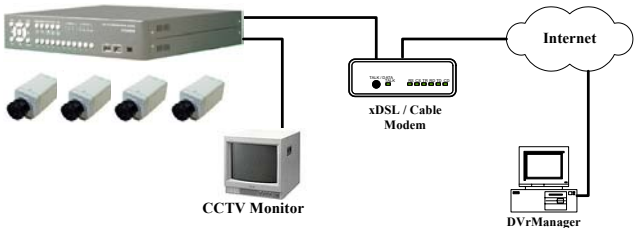
2. Connection on LAN



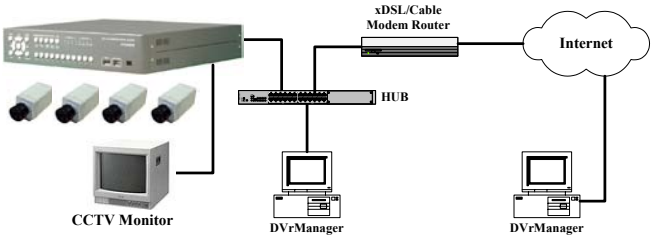
3. Connection on Internet dedicated line



4. Connection on xDSL / Cable Modem line



5. IP Sharing with other device on xDSL / Cable Network



Application Service

eDVR Registration Service
Service that helps User find Dynamic IP easily at Dynamic IP Registration Server when DS412 is connected on xDSL or Cable Modem

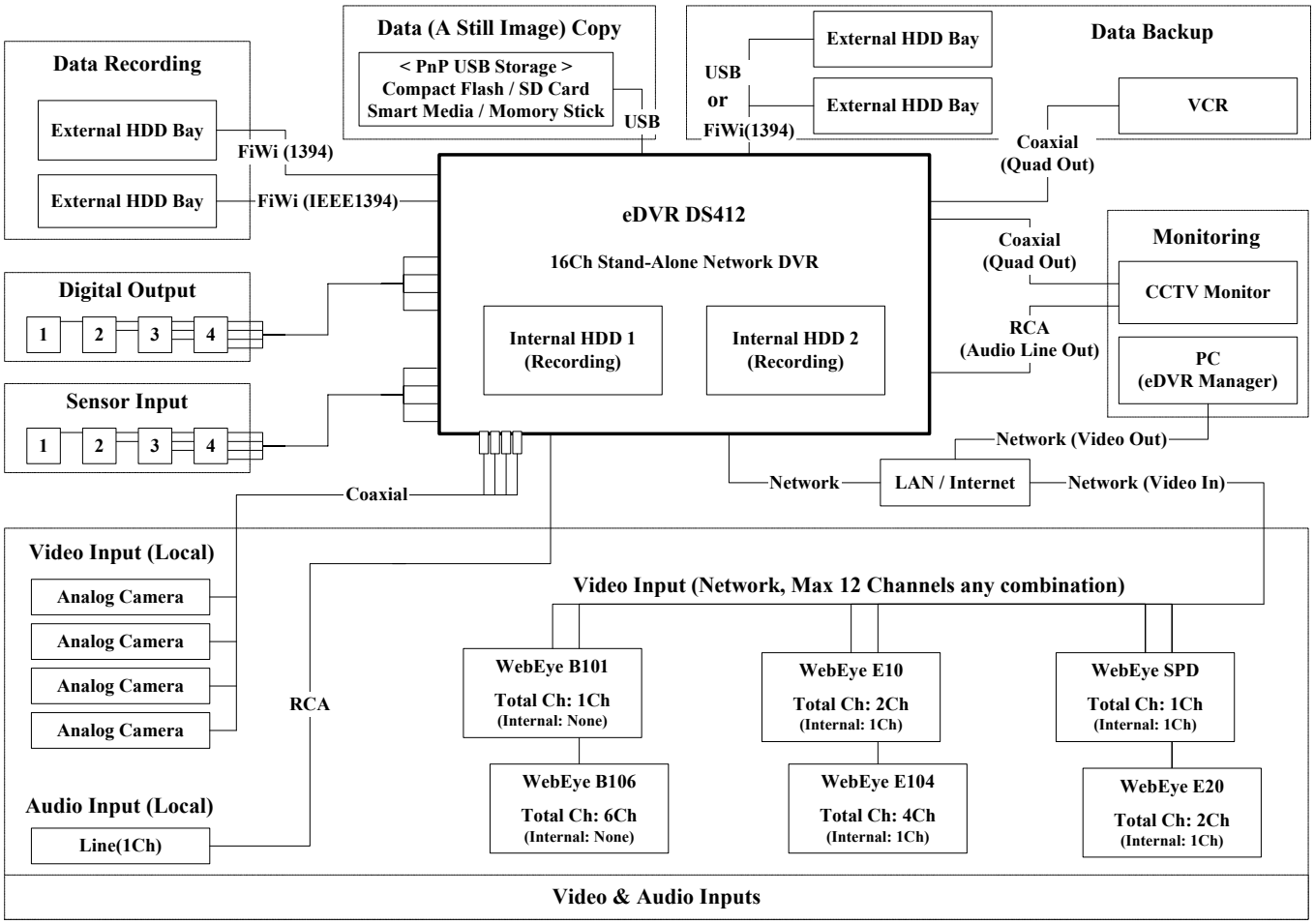
eDVR Naming Service
Service that endows DS412 with Domain Name and maps between IP Address and Domain Name

-- "Specifications are subject to change without notice" --

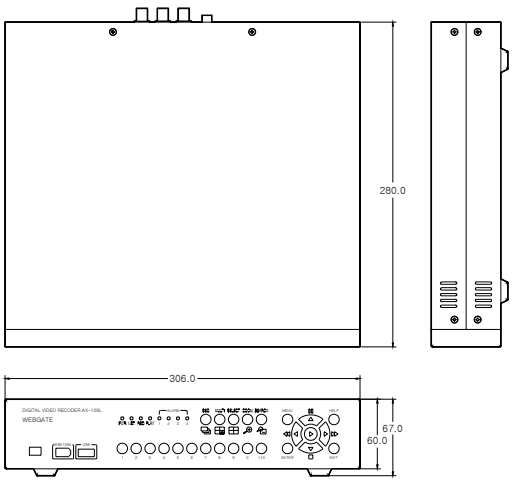
Diagram

"Recording Server Solution"

1. Functional Diagram

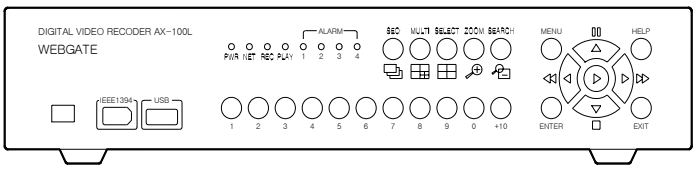


2. Physical Dimensions

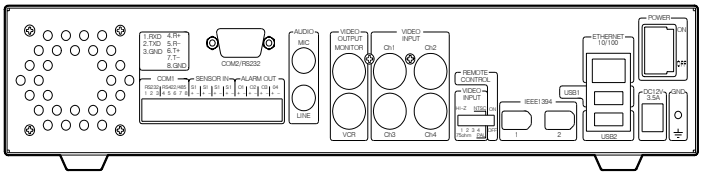


3. Front and Rear View

<Front View>



<Rear View>



- **HDD Brand: Maxtor and IBM are recommended. (For internal and external HDD)**
- **HDD RPM: 5400 RPM is recommended to reduce power consumption.**

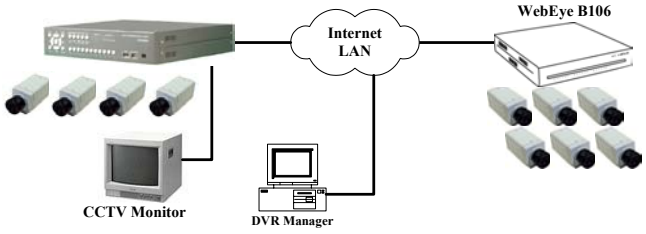
Configurations

"Recording Server Solution"

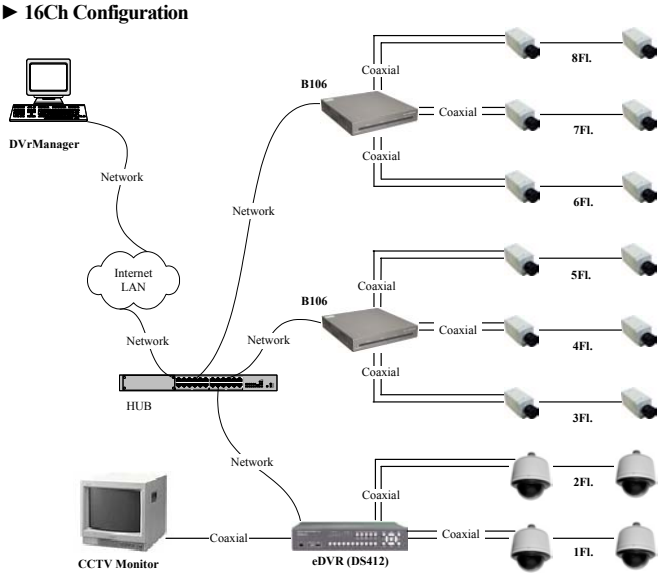
System Configuration for 4 Local Channels and External Network Channels (From 4Channel System to 16Channel System)

Analog Video Inputs	4	4	4	4	4	4	4	4	4	4	4	4	4
IP Video Inputs	0	1	2	3	4	5	6	7	8	9	10	11	12
Total Channel	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**

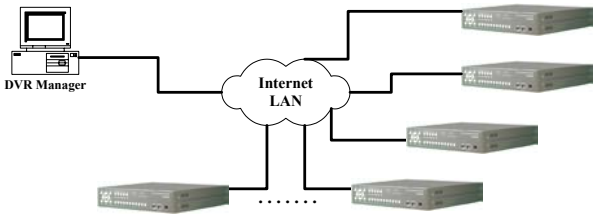
► 10Ch Configuration



► 16Ch Configuration



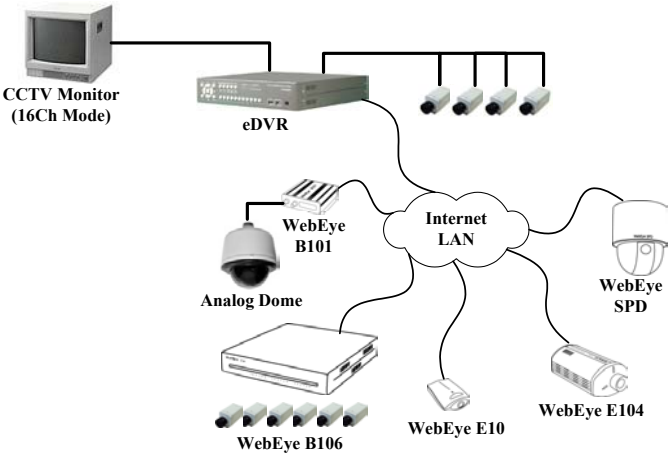
► Multi eDVR Monitoring with a PC (Max. 16 eDVR with a DVrManager)



*** DS412 will work with WebEye products that have a static IP address for now. (Dynamic IP support coming soon)**
**** For the network video channel, any combination is possible.**

System Configuration for IP video monitoring with CCTV Monitor

■ Monitoring IP video through CCTV monitor from remote place

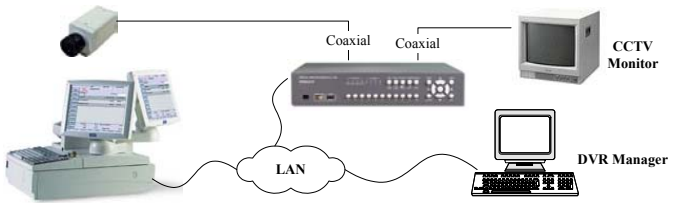


*** i-Rec is compatible with eDVR, but only live video monitoring is available**

System Configuration with POS

■ Connecting POS with DS412 via serial cable (RS232)

■ Connecting POS with DS412 over Network (LAN)



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